INC FSA02601－R.3367.A

作成承認印	配布許可印
ニコンカメラサービス部 GM	

Speedlight
SB-26

REPAIR MANUAL

Nikon | NIKON CORPORATION
Tokyo, Japan

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Specifications

The speedlight SB-26 specifications are basically the same as those of the SB-25 except for those differences described below. For more details, refer to the instruction manual.

1. Major differences from the SB-25
(1) An illumination lamp has been used instead of a Xenon tube for red-eye reduction illumination.
(2) Zoom-head position at 18mm is possible when using a wide angle flash adapter.
(3) The setting for unlimited shooting for repeating flash is no longer available.
(4) The SB-26 can operate as a slave flash.

As other specifications are the same as those of the SB-25, refer to the SB-25 instruction manual.

2. Differences in detail
(1) The illumination lamp blinks with the same timing as the pre-flash of the SB-25, then lights up for approx. 1 sec.
(2) As the SB-25 has a wide range of zoom-head positions, the 20mm position (24mm position without a wide angle flash adapter) is indicated as 18mm on the SB-26. The zoom-head indicator always shows the 20mm position when the wide flash adapter is used and it is zoomed at this position. When the zoom button is pressed, the position zooms to the 18mm position and the indicator shows 18mm. The actual zoom head position at 18mm is the same as that for 20mm on the SB-25.
(3) In the SB-25's instruction manual in the section concerning firing reference number it is written that when you want to increase the number of firings for repeating flash operation, you should use the SD-6, 7, or 8 power source. This description has been deleted from the instruction manual for the SB-26. But the actual number of firings varies depending on the condition of the battery, ambient temperature, etc.
Actually it is possible to increase the number of firings by using the SD-6, 7 or 8 within the range of available settings because the same electric circuitry is used in both the SB-26 and the SB-25.
(4) See the following pages for the slave flash function.

3. Concerning the slave flash function

(1) Differences between S and D modes

When the amount of light received by the sensor changes dramatically, the transistor connected to the speedlight's sync contact in parallel turns ON and the sync contact closes to fire the speedlight.

Timing of firing of the speedlight differs in the case of S and D modes. In S mode, the sync contact closes immediately when the light enters the sensor. In D mode, the sync contact closes approx. 1ms after the light enters. The sync contact is connected to the external terminal of the SB-26, this terminal also turns ON at the same time as the flash fires.

Accordingly, we suggest setting a long enough shutter speed to keep the shutter open for approx. 2ms or more. Otherwise the camera may not be exposed to the slave light. (Nikon camera's sync shutter speed is guaranteed to open the shutter for 1ms.)

(2) Operation in each mode (master and slave)

Slave flash operation is prohibited when the SB-26 is mounted (TTL terminal) on the camera.

Slave flash operation is possible only when the flash unit is not mounted on the camera. When it is recognized that the flash is not mounted on the camera, the operation proceeds as follows.

(a) Repeating flash is fixed to 1- - Hz.

(b) When the light received by the sensor changes markedly, the sync contact closes according to the timing set in S or D mode.

(c) Slave flash fires at the flash mode set. (Flash fires at maximum output in TTL mode.)

When the flash is perceived as a master flash by the camera, the following operations change.

(a) In D mode, rear-curtain sync becomes front-curtain sync.

(b) In S and D modes, pre-flash for 3D matrix metering is deactivated. (If pre-flash functions as a slave flash, the slave flash does not synchronize to fire.)

(c) In S and D modes, FP high-speed sync flash is forcefully set to M1/1. (Guide Number can be changed.)

(d) In D mode, if the SB-26 is mounted on F4, F90X, or F70 cameras, sync shutter speed is changed from 1/250 to a slower speed (to keep the shutter open for 2ms.) (This is not possible with the F90.)

In conclusion, when setting the slave flash from the master flash, the slave flash is controlled by the master flash.

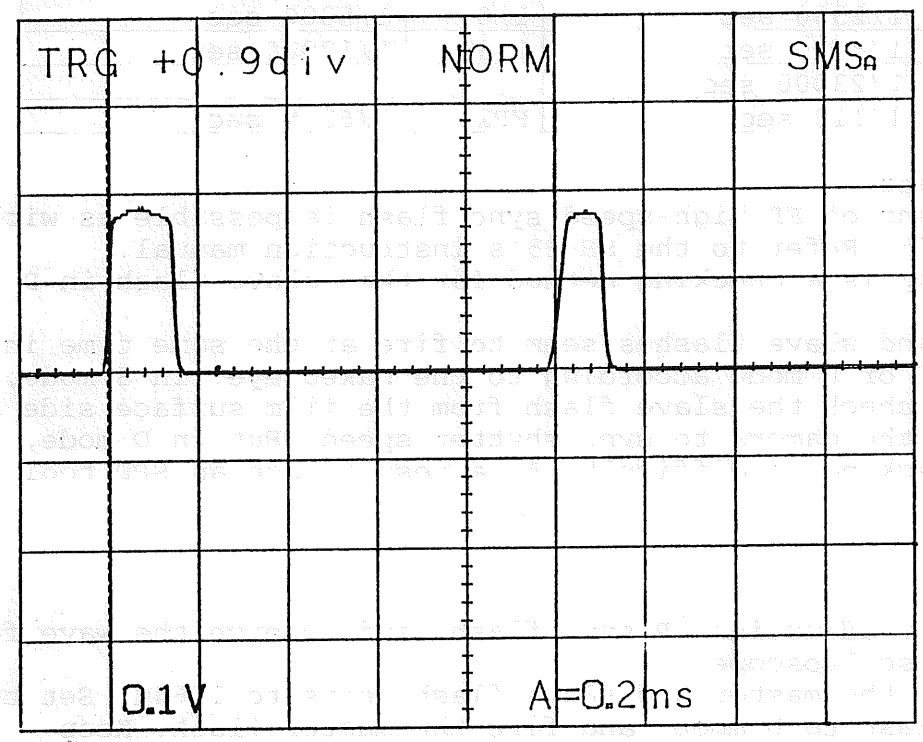
4. Flash duration
Flash duration is listed below as reference values, not as guaranteed values. Only guide numbers are guaranteed.

GN	Duration	GN	Duration
1/1	1/1000 sec	1/2	1/1000 sec
1/4	1/2500 sec	1/8	1/5000 sec
1/16	1/8700 sec	1/32	1/12000 sec
1/64	1/23000 sec		
FP1	1/110 sec	FP2	1/62.5 sec

5. Adjustment
Adjustment of FP high-speed sync flash is possible as with the SB-25. Refer to the SB-25's instruction manual.
Following is a checking method for the slave flash in D mode.
Master and slave flashes seem to fire at the same time in either S or D mode according to the naked eye. In S mode, you can check the slave flash from the film surface side by setting the camera to sync shutter speed. But in D mode, this checking is difficult. As a result, use an SPD tool

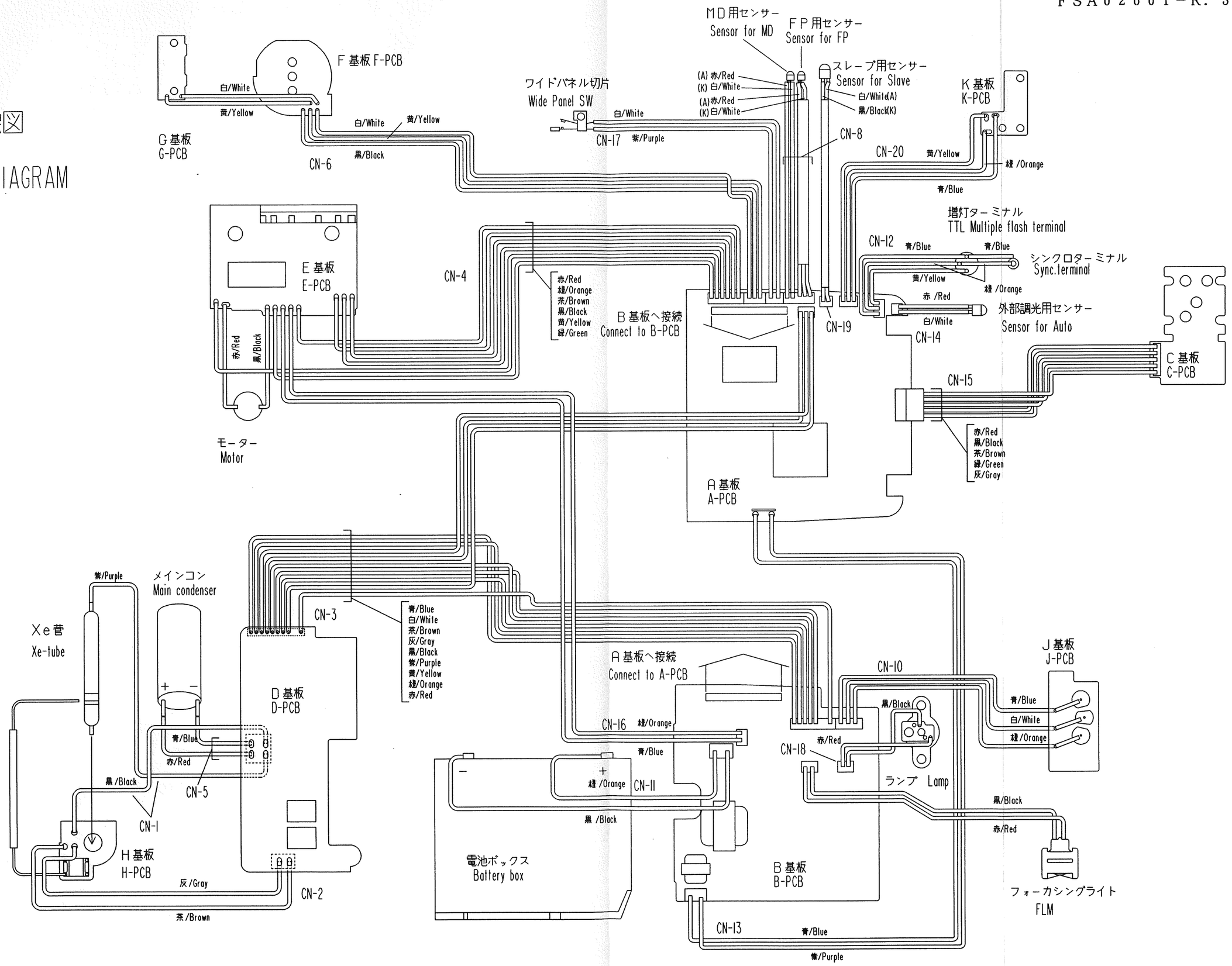
(used for adjusting FP sync flash) and observe the wave form on the oscilloscope.
Set both the master and slave flash units to 1/64M. Set the slave flash to D mode, and fire the master flash. Keep placing the SPD tool 30cm away from both flash tubes. The wave form as shown in the following page can be observed. Flash operation is normal when the firing interval of both flashes is approx. 1ms. As this interval time is controlled by the CPU, no adjustment is necessary.

Reference: Slave flash firing wave form in D mode

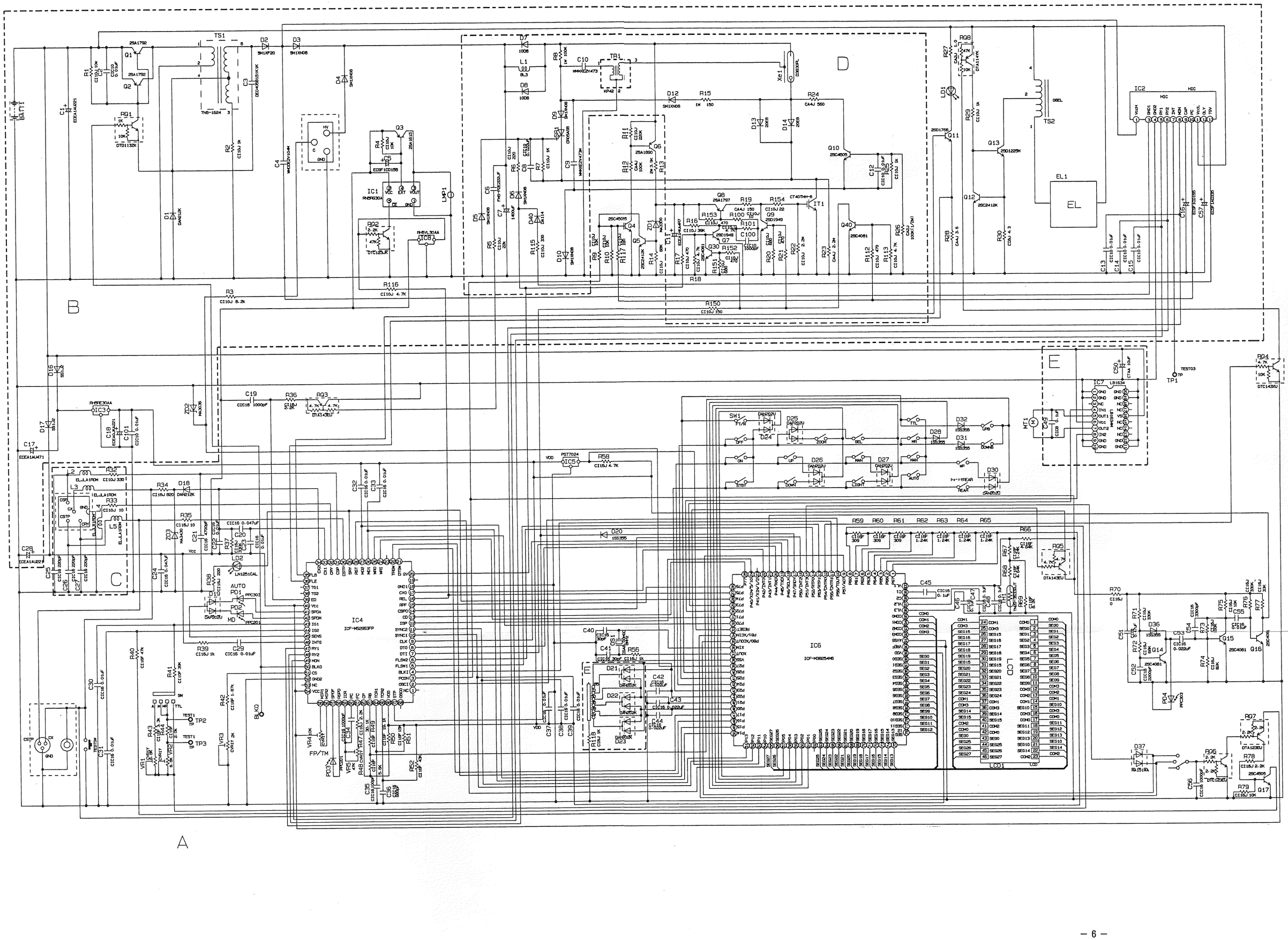


実体配線図

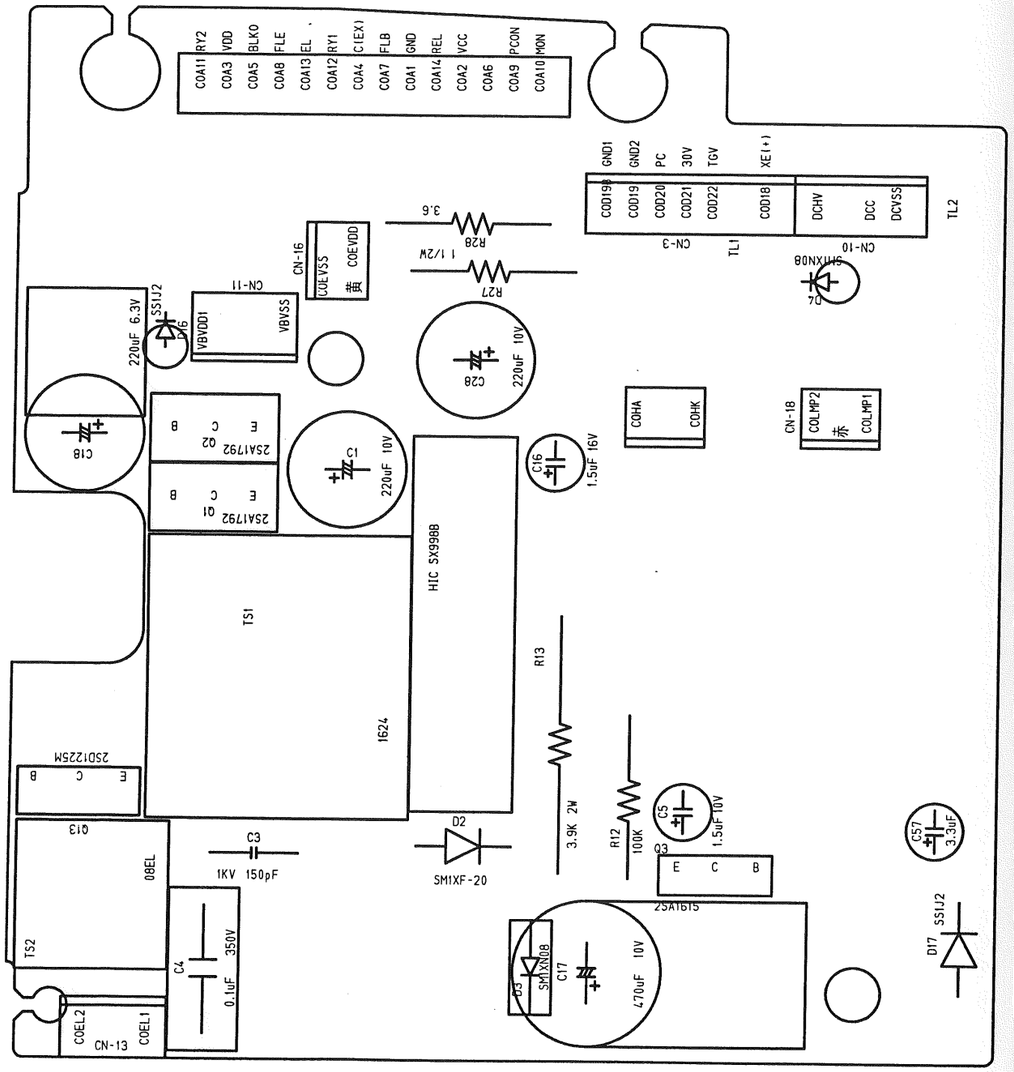
WIRING DIAGRAM

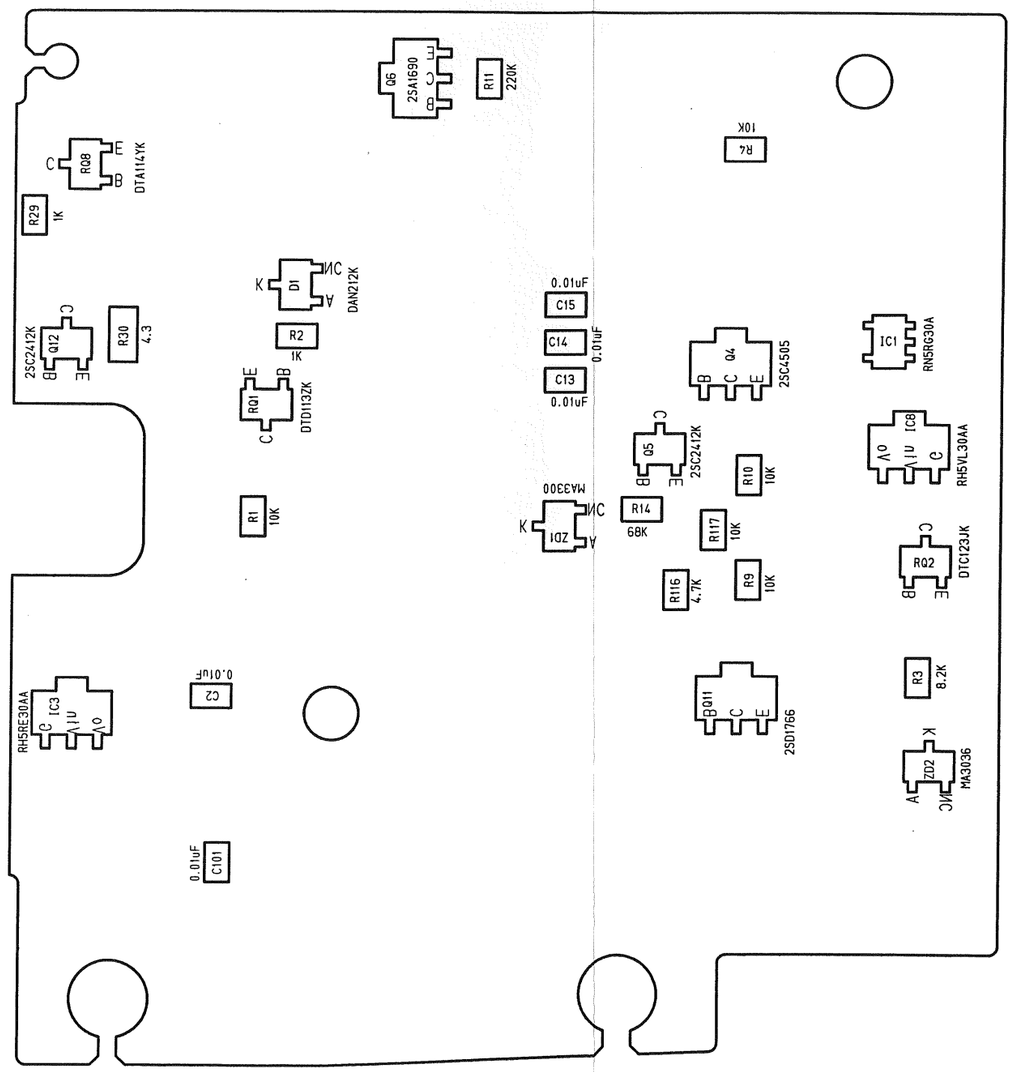


CIRCUIT DIAGRAM 回路図

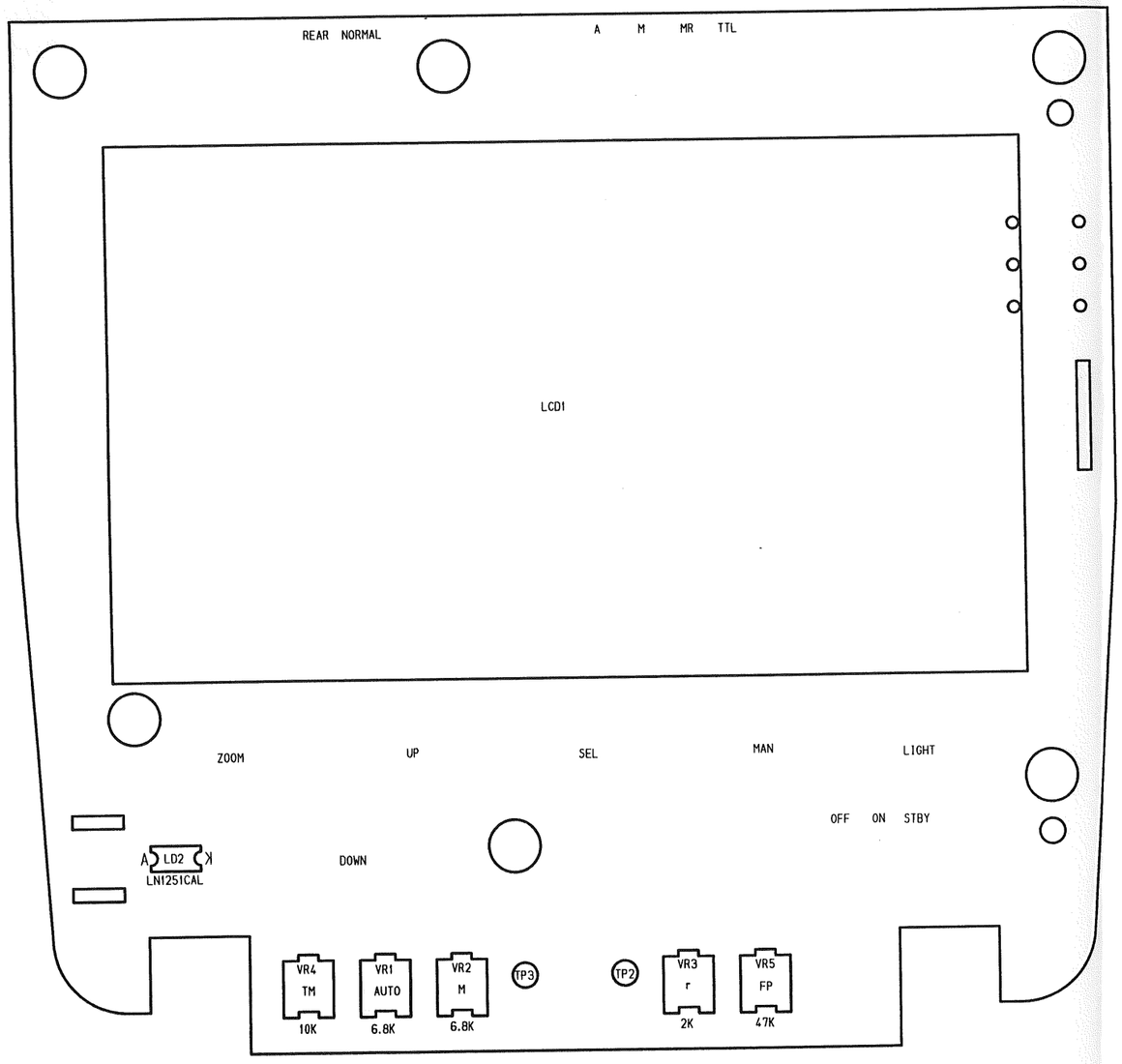


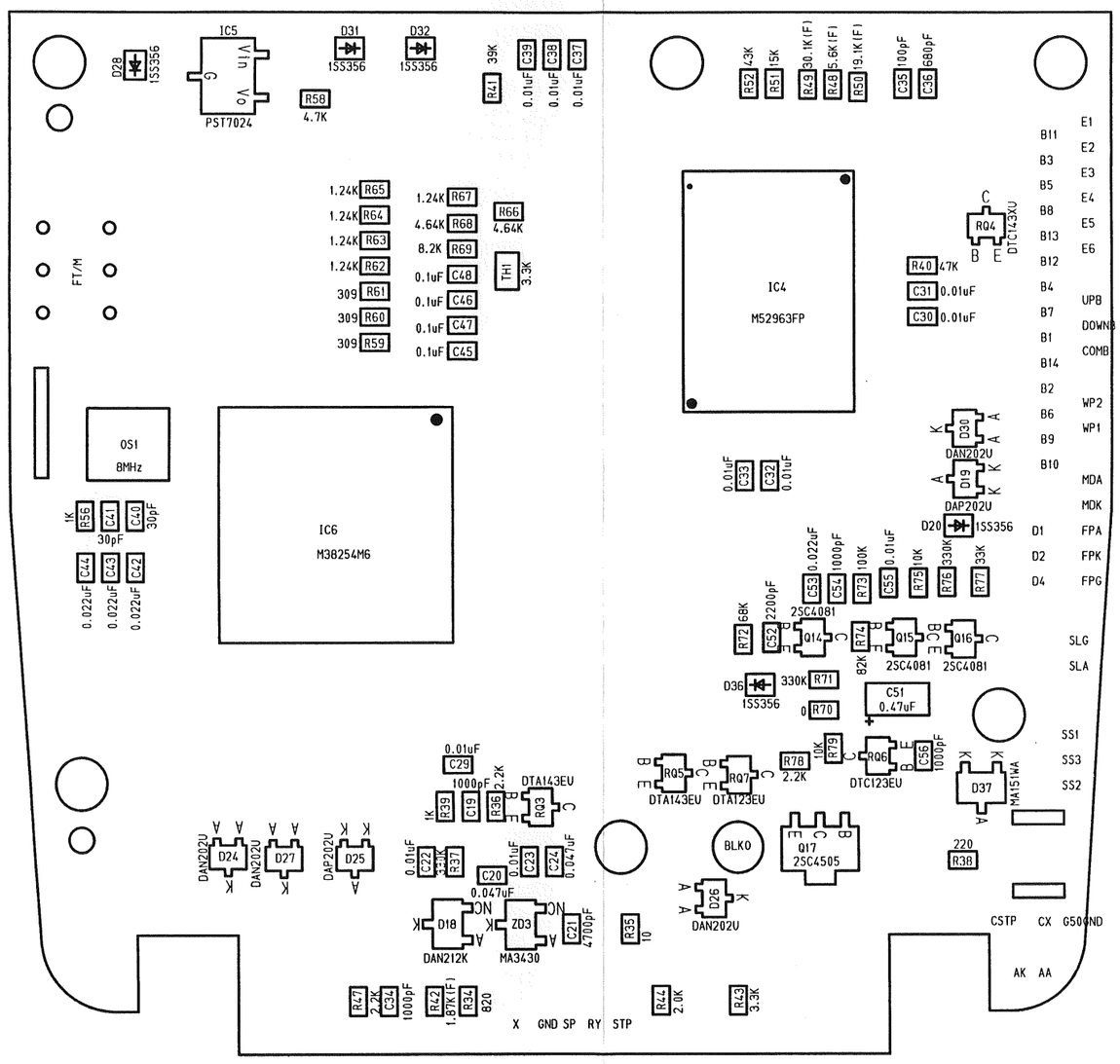
A基板　　A－PCB


COA11 RY2
COA3 VDD
COA5 BLKO
COA8 FLE
COA13 EL
COA12 RY1
COA4 C(EX)
COA7 FLB
COA1 GND
COA14 REL
COA2 VCC
COA6
COA9 PCON
COA10 MON
GND1
GND2
PC
30V
TGV
XE(+)
COD19
COD20
COD21
COD22
COD18
DCHV
DCC
DCVSS
CN-3
TL1
CN-10
TL2
3.6
R28
1 1/2W
R27
SHIXN08
D4
CN-16
COEVSS
COEVDD
黄
CN-11
VBVDD1
VBVSS
220uF 6.3V
SS1U2
D6
C18
2SA1792 Q2
2SA1792 Q1
C1
220uF 10V
C28
220uF 10V
C16
1.5uF 16V
COHA
COHK
CN-18
COLMP2
COLMP1
赤
H1C SX998B
T51
1624
R13
3.9K 2W
R12
100K
C5
1.5uF 10V
Q3
E C B
2SA1615
C57
3.3uF
D17 SS1U2
2SD1225M
E C B
Q13
08EL
TS2
C3
1KV 150pF
D2
SM1XF-20
C4
0.1uF 350V
C17
470uF 10V
D3
SM1XN08
COEL2
CN-13
COEL1

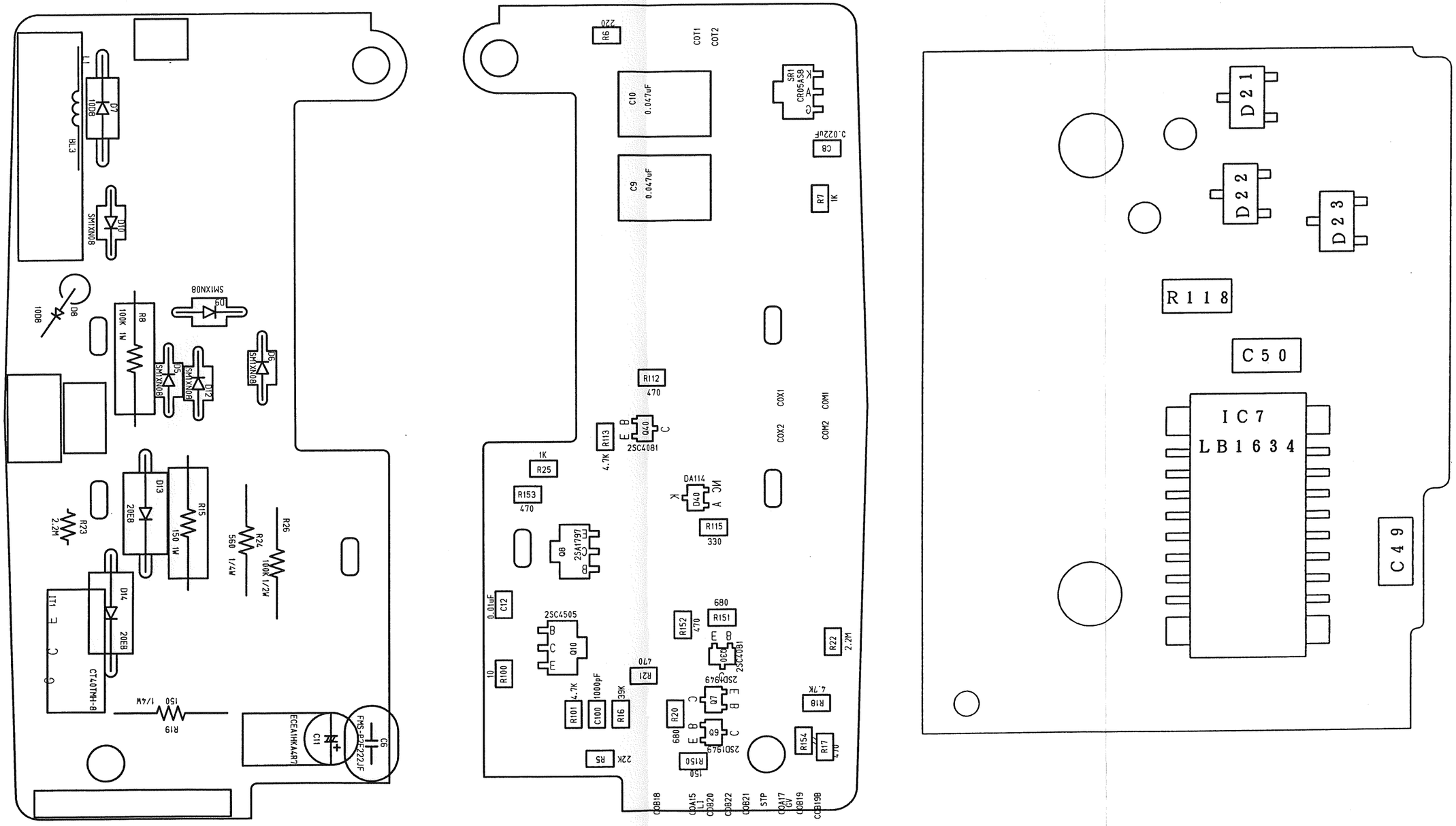

Q6
2SA1690
E C B
R11
220K
R4
10K
R29
1K
RQ8
DTA114YK
C B E
R30
4.3
2SC2412K
Q12
C B E
D1
DAN212K
K A
R2
1K
RQ1
DTD113ZK
C B E
R1
10K
0.01uF
C15
C14
C13
0.01uF
Q4
2SC4505
B C E
IC1
RN5RG30A
Q5
2SC2412K
C B E
R10
10K
R14
68K
R117
10K
R116
4.7K
R9
10K
ZD1
MA3300
K A
IC8
RH5VL30AA
RQ2
DTC123JK
C B E
RH5RE30AA
IC3
C VI VO
C2
0.01uF
C101
0.01uF
BQ11
C E
2SD1766
R3
8.2K
ZD2
MA3036
K A

B基板　　B－PCB


REAR NORMAL
A M MR TTL
LCD1
ZOOM
UP
SEL
MAN
LIGHT
OFF ON STBY
A LD2 K
LN1251CAL
DOWN
VR4 TM 10K
VR1 AUTO 6.8K
VR2 M 6.8K
TP3
TP2
VR3 r 2K
VR5 FP 47K


D28 1SS356
IC5 PST7024 Vin G Vo
R58 4.7K
D31 1SS356
D32 1SS356
R41 39K
C39 0.01uF
C38 0.01uF
C37 0.01uF
R52 43K
R51 15K
R49 30.1K(F)
R48 5.6K(F)
R50 19.1K(F)
C35 100pF
C36 680pF
FT/M
R65 1.24K
R64 1.24K
R63 1.24K
R62 1.24K
R61 309
R60 309
R59 309
R67 1.24K
R68 4.64K
R69 8.2K
C48 0.1uF
C46 0.1uF
C47 0.1uF
C45 0.1uF
R66 4.64K
TH1 3.3K
IC4 M52963FP
RQ4 DTC143XU
R40 47K
C31 0.01uF
C30 0.01uF
B11 B3 B5 B8 B13 B12 B4 B7 B1 B14 B2 B6 B9 B10
E1 E2 E3 E4 E5 E6
UPB DOWNB COMB WP2 WP1 MDA MDK FPA FPK FPG SLG SLA SS1 SS3 SS2
OS1 8MHz
R55 1K
C41 30pF
C40 30pF
C44 0.022uF
C43 0.022uF
C42 0.022uF
IC6 M38254M6
D30 DAN202U
D19 DAP202U
D20 1SS356
C33 0.01uF
C32 0.01uF
C53 0.022uF
C54 1000pF
R73 100K
C55 0.01uF
R75 10K
R76 330K
R77 33K
R72 68K
C52 2200pF
Q14 2SC4081
R74 82K
Q15 2SC4081
Q16 2SC4081
D36 1SS356
R71 330K
R70 0
C51 0.47uF
C29 0.01uF
C19 1000pF
R39 1K
R36 2.2K
RQ3 DTA143EU
R5 DTA143EU
RQ7 DTA123EU
R78 2.2K
R79 10K
RQ6 DTC123EU
C56 1000pF
D37 HA151WA
BLKO
Q17 2SC4505
R38 220
D24 DAN202U
D27 DAN202U
D25 DAP202U
C22 0.01uF
R37 2.2K
C20 0.047uF
C23 0.01uF
C24 0.047uF
D18 DAN212K
ZD3 MA3430
C21 4700pF
D26 DAN202U
R35 10
R47 2.2K
C34 1000pF
R42 1.87K(F)
R34 820
R44 2.0K
R43 3.3K
CSTP CX G50GND
AK AA
X GND SP RY STP

D. E基板　D. E－PCB


L1
BL3
D07
1008
SMIXN08
D10
D08
100K 1W
R8
SMIXN08
D5
SMIXN08
D12
SMIXN08
D6
D13
20E8
R15
150 1W
R23
2.2M
R24
560 1/4W
R26
100K 1/2W
D14
20EB
C7107M1-8
150 1/4W
R19
ECEA1HKA4R7
C11
G6
FMS-P1E222JF
R6
220
C10
0.047uF
C9
0.047uF
COT1
COT2
SR1
CR05A58
3.022UF
C8
R7
1K
R112
470
R113
4.7K
Q40
2SC4081
1K
R25
R153
470
DA114
D40
R115
330
Q8
2SA1797
0.01uF
C12
2SC4505
Q10
680
R151
R152
470
2SC4081
Q30
R22
2.2M
10
R100
R101
4.7K
C100
1000pF
R16
39K
R21
470
2SD1979
Q7
R20
680
Q9
2SD1979
R18
4.7K
R154
R17
470
R150
150
R5
22K
COX1
COX2
COM1
COM2
COB18
COA15
L1
COB20
COB22
COB21
STP
COA17
CW
COB19
COB19B

D21
D22
D23
R118
C50
IC7
LB1634
C49